

## CLAIMS:

1. Use of a first and a second particle, at least one of which is magnetic, in a magnetic field for distinguishing between different strengths of bindings between microbiological entities in a liquid, the use comprising:
  - providing a complex between a first particle mobile in the liquid and a first microbiological entity,
  - providing conditions within the liquid for a binding between the first microbiological entity and a second microbiological entity;
  - bringing a second particle mobile in the liquid into proximity with the complex; and
  - acting on the first and/or second particle to apply a mechanical stress to the binding between the first and second microbiological entity while applying the magnetic field to thereby disrupt a binding of a first strength and not to disrupt a binding of a second greater strength.
2. Use according to claim 1 wherein the distinguishing of the strength of a binding is used for the discrimination between a specific and an a-specific binding.
3. Use according to claim 1 or 2, wherein the first microbiological entity is a target molecule and the second microbiological entity is a capture molecule.
4. The use according to any of claims 1 to 3, wherein both first and second particles are magnetic particles.
5. The use according to any of the claims 1 to 4 wherein a first particle is coupled to a microbiological entity and wherein a second magnetic particle is not coupled to a microbiological entity.
6. The use according to any of the claims 1 to 4 wherein both the first and the second particles are coupled to a microbiological entity.

7. The use according to claim 6 wherein the first particle is coupled to a target microbiological entity and the second particle is coupled to a capture microbiological entity.
- 5 8. The use according to claim 6 wherein the first particle is coupled to a first target microbiological entity and wherein the second particle is coupled to a second target microbiological entity.
9. The use according to any of claims 4 to 8 wherein the first and/or second  
10 magnetic particles is paramagnetic.
10. The use according to any of claims 4 to 9 wherein the first magnetic particle has a magnetic moment which is 10 times smaller than the magnetic moment of the second magnetic particle.  
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11. The use according to any claims 4 to 10 wherein the size of the first magnetic particle is smaller than the size of the second magnetic particle.
12. The use according to any of claims 4 to 11 wherein the first magnetic particle  
20 has a diameter between 1 nm and 1  $\mu$ m, more preferably between 10 nm and 200 nm.
13. The use according to any of claims 4 to 12 wherein the second magnetic particle has a diameter of at least 100 nm.
- 25 14. The use according to any of claims 1 to 13 wherein the first or second microbiological entities are arranged on capture spots on an array.
15. The use according to any of the claims 1 to 14, wherein only one of the first and second particles is magnetic and the other particle is non-magnetic.  
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16. The use according to claim 15 wherein the non-magnetic particle is larger than the magnetic particle.

PHNL030947

PCT/IB2004/051213

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17. The use according any of the claims 1 to 16 further comprising the step of applying a fluid frictional force to the first or second microbiological entity.
18. A tool for the distinguishing between bindings of different strengths between  
5 microbiological entities, the tool comprising:
- first particles and second particles, at least one of which is magnetic,
  - means acting on the first and second particles to thereby exert a mechanical stress on bindings between the first and second microbiological entities and to distinguish between the bindings of different strengths, the means for exerting a mechanical stress  
10 comprising at least a magnetic field generator.
19. A tool according to claim 18 wherein both first and second particles are magnetic or the first particles are magnetic and the second particles are not magnetic.
- 15 20. The tool according to claim 18 or 19, wherein first and/or second particles are coupled to a microbiological entity.
21. The tool according to any of the claims 18 to 21 wherein the microbiological  
20 entity is a bioactive molecule such as a protein or a peptide.
22. The tool according to any of the claims 18 to 21, wherein the means for exerting a mechanical stress includes means for exerting a fluid frictional force on the first or second particles.
- 25 23. The tool according to any of the claims 18 to 22, further comprising an array of microbiological entities arranged on capture spots on a substrate.
24. The tool according to any of the claims 18 to 23, further comprising means for generating an excitation that forces a lateral movement of the particles with respect to the  
30 array.
25. Use of the tool according to any of claims 18 to 24 for the identification, isolation, purification of a specific bound bioactive molecule.